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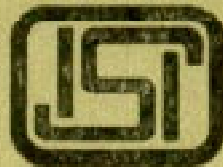
IS : 6053 (Part II) - 1971

Indian Standard

SPECIFICATION FOR
HAND TOOLS FOR FOOTWEAR INDUSTRY

PART II BOTTOM CUTTING KNIFE (RAMPI)

UDC · 685·31·051·62



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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 1

Price Rs. 2.50 **Gr 3**

May 1972

Indian Standard

SPECIFICATION FOR HAND TOOLS FOR FOOTWEAR INDUSTRY

PART II BOTTOM CUTTING KNIFE (RAMPI)

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Indian Standard

SPECIFICATION FOR HAND TOOLS FOR FOOTWEAR INDUSTRY

PART II BOTTOM CUTTING KNIFE (RAMPI)

0. FOREWORD

0.1 This Indian Standard (Part II) was adopted by the Indian Standards Institution on 27 November 1971, after the draft finalized by the Footwear Sectional Committee had been approved by the Chemical Division Council.

0.2 The knife consists of a wooden handle, a metallic ferrule and steel blade with narrow tounge. The tounge should be well drawn out and securely fitted to the handles so that the blades do not get separated easily from the handles during use.

0.3 This standard contains clause 5.1 which call for agreement between the purchaser and the supplier.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements, methods of sampling and test for bottom cutting knife (*RAMPI*), used in footwear industry for cutting bottom components.

2. TERMINOLOGY

2.1 For the purpose of this standard, definitions given in IS : 2050-1967† shall apply.

3. REQUIREMENTS

3.1 Materials

3.1.1 Blades — The blades shall be made from steel, having a rust preventive coating and conforming to variety T90 of IS : 3749-1966‡.

*Rules for rounding off numerical values (*revised*).

†Glossary of footwear terms.

‡Specification for tool and die steel for cold work.

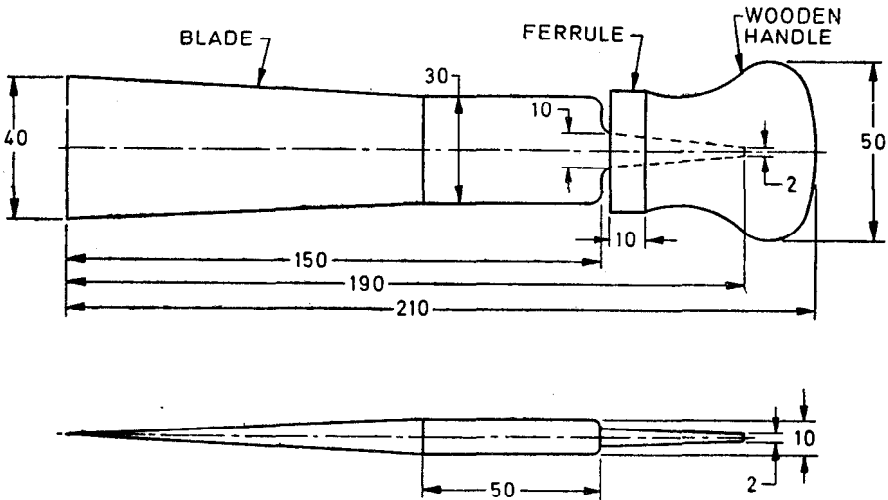
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3.1.2 Ferrule — Mild steel, solid drawn, 1.2 mm thick and having rust-preventive coating.

3.1.3 Handle — Handle of the knife shall be made from wood, conforming generally to the requirements of class V of IS : 620-1965*.

NOTE — The wood of haldu (*Adina cordifolia* Hook. f) may also be used.

3.2 Shape and Dimensions — The shape and dimensions of the bottom cutting knife (*RAMPI*) shall be as given in Fig. 1.



All dimensions in millimetres.

FIG. 1 BOTTOM CUTTING KNIFE (*RAMPI*)

3.3 Hardness — The hardness of the finished steel blades measured as near to the cutting edge as possible shall be within 625 to 725 *HV* when tested according to IS : 1501-1968†.

3.4 General Requirements and Finish

3.4.1 The blades shall be suitably hardened and tempered, and smoothly ground. The blades shall be free from cracks, burs, seams, flaws and other defects. The taper position shall be free from pits. The cutting edge shall be even and shall be capable of being sharpened by means of an oilstone to a keen edge ready for use. The two ends of the cutting edge shall not be rounded.

*General requirements for wooden tool handles (*second revision*).

†Method for Vickers hardness test for steel (*first revision*).

3.4.2 The tongues shall be well drawn out and securely fitted to the handle.

3.4.3 The handle shall be evenly turned and smoothly finished and shall be coated with shellac varnish (*see* IS : 347-1952*).

3.4.4 The ferrule shall be finished smooth and bright and shall be tightly fitted over the handle.

3.5 Performance Requirements

3.5.1 The knife when suitably sharpened and subjected to a practical cutting test on butt portion of vegetable tanned sole leather (*see* IS : 579-1962†), approximately 5 mm thick, shall cut easily and shall give a clean cut edge. The cutting edge shall fully retain its keenness and shall show no sign of distortion or any other defects on completion of the test.

3.5.2 The blades of the knife shall not show any sign of blunting, cracking, permanent set or loosening from the handle on being struck sharp blows on one of the hardwoods given in Appendix A from a height of 250 mm with the cutting edge facing downwards.

3.5.3 The blades of each knife shall be struck four hard blows across the edge of any of the hard woods given in Appendix A along its flat surface. The blades shall show no sign of damage or distortion during or after the test.

4. MARKING

4.1 Each blade of the knife or the package or both shall be marked legibly with the following particulars:

- a) Name of the manufacturer or trade-mark, if any;
- b) Date and year of manufacture.

4.1.1 The handle of the knife or the package or both may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

*Specification for varnish, shellac, for general purposes.

†Specification for sole leather.

5. PACKING

5.1 The blades of the knife shall be wrapped in greased paper and securely tied. The wrapped knives shall then be packed as agreed to between the purchaser and the supplier.

6. SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

6.1 The scale of sampling and criteria for conformity shall be as prescribed in Appendix B.

7. TEST METHOD

7.1 The material shall be examined visually for all general requirements prescribed in 3.4.

7.2 The material used for handle, blade and ferrule shall be tested for the requirements given in 3.1 according to the relevant Indian Standard noted against them. Dimensions shall be checked by suitable callipers.

7.3 **Test for Rust Proofness** — Clean or degrease the blade and ferrule, selected for this purpose with benzene (IS : 1840-1961*). Dip in a solution of copper sulphate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$) relative density 1.17 at 27°C for a duration of one minute and take out. Wash, wipe and dry with a clean soft cloth. Repeat the process of immersion and drying four times and examine visually.

7.3.1 To pass the test, the material under test shall not show any sign of red deposition of copper after or before the fourth dip.

APPENDIX A (Clauses 3.5.2 and 3.5.3)

HARDWOODS FOR TESTING PERFORMANCE

A-1. The following timbers may be used for testing the performance of the knives:

TRADE NAME	BOTANICAL NAME
Kusum	<i>Schleichera oleosa</i> Merr.
Rabul	<i>Acacia nilotica</i> (Linn.) Del. Syn. <i>Acacia arabica</i> Linn. fam. Leguminosae
Sissoo	<i>Dalbergia sissoo</i> Roxb.
Sal	<i>Shorea robusta</i> Gaertn. f.
Anjan	<i>Hardwickiaabinata</i> Roxb.
Honea	<i>Hopea</i> sp
Mesua	<i>Mesua ferrea</i>

*Specification for benzene, reagent grade.

APPENDIX B

(Clause 6.1)

SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY**B-1. SCALE OF SAMPLING**

B-1.1 Lot — In a consignment all the knives of the same shape and dimensions shall be grouped together to constitute a lot.

B-1.2 Each lot shall be tested separately for determining its conformity to the requirements of this specification.

B-1.3 The number of knives to be selected in the sample depends on the size of the lot and shall be in accordance with col 1 and 2 of Table 1.

TABLE 1 SCALE OF SAMPLING AND PERMISSIBLE NUMBER OF DEFECTIVES

LOT SIZE	SAMPLE SIZE	PERMISSIBLE NO. OF DEFECTIVES
<i>N</i>	<i>n</i>	
(1)	(2)	(3)
Up to 25	5	0
26 „ 50	8	0
51 „ 100	13	1
101 „ 200	20	1
201 „ 400	32	2
401 and above	50	3

B-1.4 These sample knives shall be selected at random from the lot. For random selection procedures, IS : 4905-1968* may be referred.

B-2. CRITERIA FOR CONFORMITY

B-2.1 All the selected knives shall be examined for material, construction, dimensions and finish and shall also be tested for performance requirements given in 3.5. A knife failing in any one of the above requirements shall be taken as a defective. The number of defectives shall not exceed the permissible number given in col 3 of Table 1 if the lot is to be accepted as satisfactory.

*Methods of random sampling.

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B-2.2 Two knives if the lot size is 100 and below, and four knives if the lot size is above 100 shall be tested for hardness of steel blade. There shall be no failure if the lot is to be accepted under this clause. For rustproofness of blade and ferrule, two knives selected at random from the sample shall be tested and if both of them pass the test, the lot shall be considered satisfactory in this regard.

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